

Summary of Desert Tortoise Recovery Actions Eastern Colorado Recovery Unit

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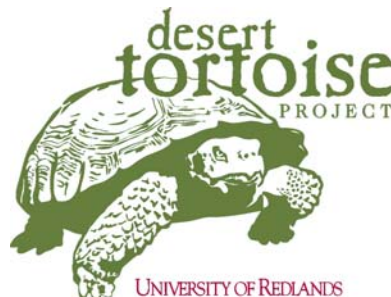


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Recovery Task Summary – Redlands Institute Desert Tortoise Project

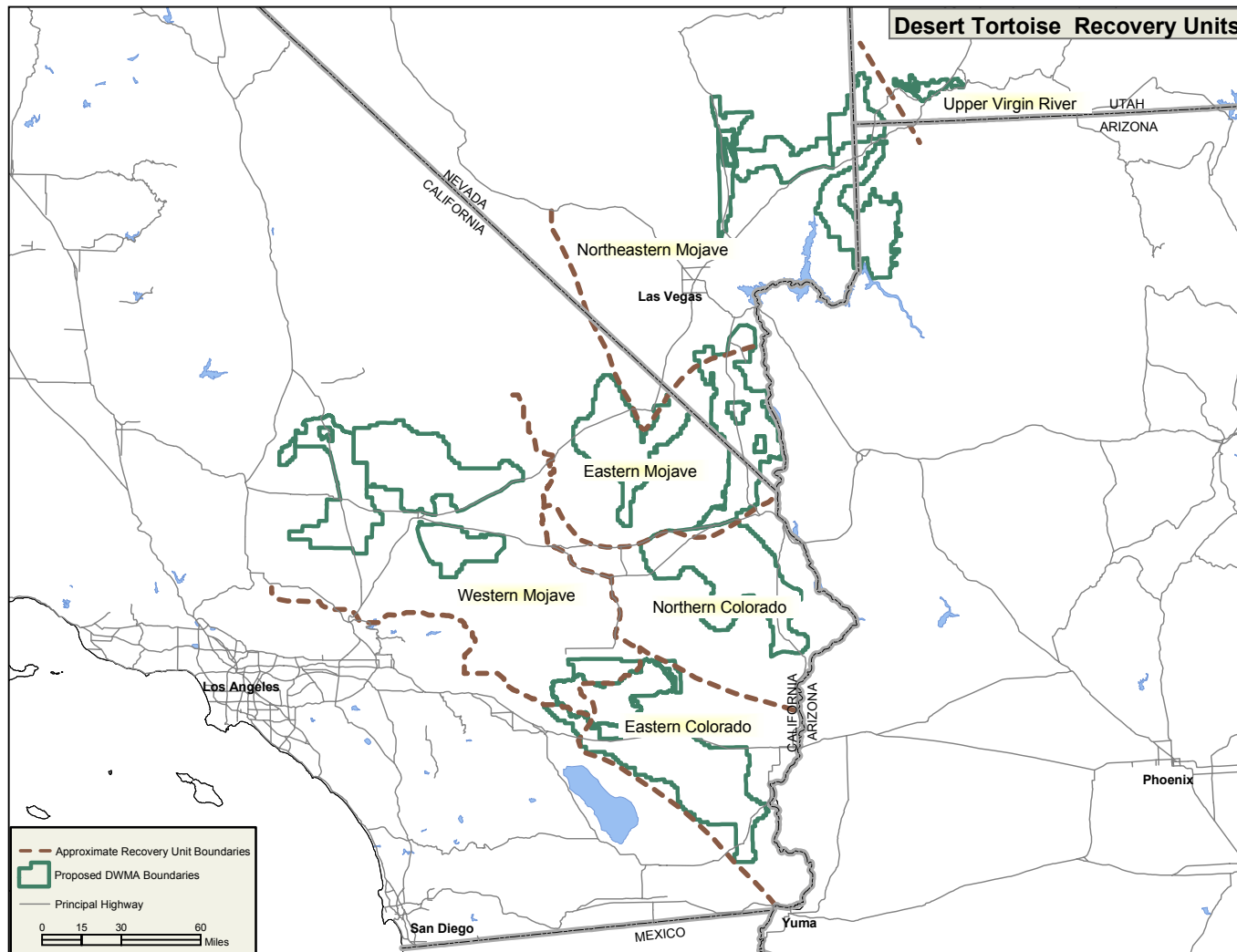


Figure 1. Desert Tortoise Recovery Units in the Mojave Desert.

Recovery Task Summary – Redlands Institute Desert Tortoise Project

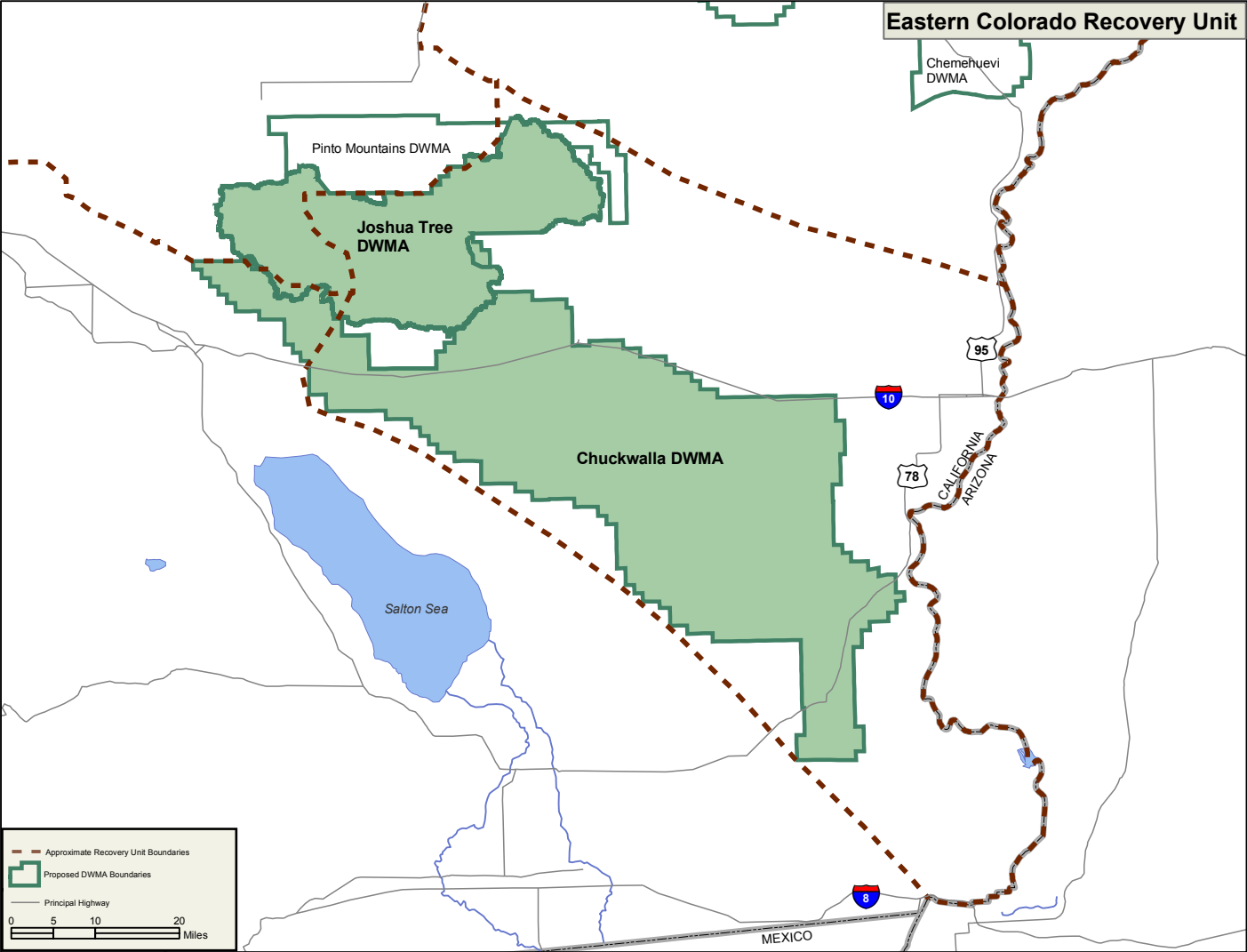


Figure 2. Eastern Colorado Recovery Unit

Introduction

The following report provides a summary of completed and ongoing recovery, monitoring, and research actions for the desert tortoise, *Gopherus agassizii* in the Eastern Colorado Recovery Unit. Information is summarized by each of the recovery actions identified in the Desert Tortoise Recovery Plan (USFWS, 1994). Information was obtained from surveys conducted in July 2002 of the land and resource agencies and entities responsible for desert tortoise recovery and management. The information provided within this document was taken directly from the survey responses. Where no answer was provided the corresponding cell was left blank. No attempt has been made to independently verify the accuracy and completeness of the information provided on the surveys. Contact information has been provided for the individuals who completed the questionnaire to aid in the evaluation of the information contained herein.

The information in this report will be used by the Desert Manager Group (DMG) and the Desert Tortoise Management Oversight Group (MOG) to plan and manage an effective and coordinated recovery program for the desert tortoise. The report will be updated annually. Copies of these reports can be obtained from the DMG website at www.dmg.gov/documents.

Comments on the report are welcome and should be sent to:

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Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Chuckwalla	
Agency	California BLM	DTPC
Recovery Action		
Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit	<ul style="list-style-type: none"> · In the California Desert Conservation Area Plan (CDCA Plan) of 1980 (see Map 5), desert tortoise crucial habitat was designated for a 225,000-acre area including all of Chuckwalla Bench and much of Chuckwalla Valley. The CDCA Plan also designated the Chuckwalla Bench Area of Critical Environmental Concern of 80,000 acres (including private inholdings) · In October 1992, the State Director signed the California Statewide Desert Tortoise Management Policy (Statewide Policy) designating a management area of desert tortoise Category I (419, 900 ac.) and II (40,100 ac.) [BLM lands only]. The area including Chuckwalla Valley and Chuckwalla Bench areas. · In April 1993, the CDCA Plan was amended to include the designations specified in the Statewide Policy. · In February 2001, the Draft Northern and Eastern Colorado Desert Coordinated Management Plan and Environmental Impact Statement was published. It proposed an area of critical environmental concern named the Chuckwalla Desert Wildlife Management Area (DWMA). The proposed DWMA includes 820,100 ac. of which 465,300 ac. (57%) are BLM, 187,800 ac. (23%) are military, and 167,000 ac. (20%) are State and private lands. All BLM lands in the DWMA are to be BLM Category I desert tortoise habitat. The Final Plan and EIS are to be released in July 2002. 	NO
Secure habitat within desert wildlife management areas	<ul style="list-style-type: none"> · About 26,000 acres of habitat in the proposed Chuckwalla DWMA ACEC have been acquired through purchase using Land and Water Conservation Funds. · About 5,100 acres of habitat in the proposed Chuckwalla DWMA ACEC have been acquired through purchase or donation using compensation funds. · Under the Statewide Tortoise Policy (Guideline 26), "No Category I habitat will be transferred out of public ownership." 	2001: Acquired 80 acres of habitat in the Chuckwalla Bench ACEC.

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Chuckwalla	
Agency	California BLM	DTPC
Recovery Action		
Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists	<ul style="list-style-type: none"> · The proposed Chuckwalla DWMA ACEC is contiguous with the Joshua Tree DWMA to the Northwest. These are the only two DWMA's within the Eastern Colorado Recovery Unit. [The Joshua Tree DWMA is then contiguous with the Joshua Tree DWMA and the BLM's proposed Pinto DWMA ACEC in the Western Mojave Recovery Unit.] · The proposed Chuckwalla DWMA ACEC is connected to the proposed Chemehuevi DWMA ACEC in the Northern Colorado Recovery Unit by a series of existing wilderness areas and proposed units of a Multi-species Wildlife Habitat Management Area. 	NO
Number (or miles) of roads closed or rehabilitated	<ul style="list-style-type: none"> · In 1986, the BLM completed the Chuckwalla Bench ACEC Management Plan. Ninety-two routes were designated open (64), closed (23), or limited (5; seasonal closure) over an area of about 92,000 acres. · In 1994, Congress designated wilderness areas in the CDCA of which 157,400 acres are in the proposed Chuckwalla DWMA ACEC. All routes are closed in wilderness. · In 2001, interim route designations were made on 120,841 acres of BLM land in the proposed Chuckwalla DWMA but outside of wilderness and outside of the Chocolate Mountains Aerial Gunnery Range. Vehicle travel in this area is restricted to designated open routes. Washes in this area are open for travel only to the extent that a wash is designated as a route. · The Draft Northern and Eastern Colorado Desert Coordinated Management Plan proposes to maintain 960 miles of open routes within the proposed Chuckwalla DWMA ACEC and to close 53 miles of routes. In addition 26 miles of routes were identified as "non-route." For most of the recovery unit, visitors can also drive in washes historically used by vehicles; however, the NECO Plan proposes a "washes closed zone" of 121,400 acres in the DWMA ACEC. 	NO
All competitive and organized events on designated roads	<ul style="list-style-type: none"> · Historically, the BLM has not authorized competitive events in the proposed Chuckwalla DWMA ACEC. · Under the Statewide Tortoise Policy (Guideline 11), "Competitive vehicle events in tortoise habitat will be allowed only within existing off-highway vehicle open (play) areas or on specific courses identified in the CDCA Plan." · Organized dual-sport motorcycle trail rides are sometimes authorized under a programmatic biological opinion in tortoise habitat throughout the CDCA. All trail rides are on established routes. 	NO

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Chuckwalla	
Agency	California BLM	DTPC
Recovery Action		
Prohibit habitat destructive military maneuvers	Habitat destructive military maneuvers have not been authorized since 1980 in the proposed Chuckwalla DWMA ACEC. However, maneuvers could be considered subject to the 1 percent limit on new surface disturbance in the DWMA. With this limitation, it is unlikely that maneuvers would be allowed. · Desert Scimitar 2001, 2002.	NO
Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation	· As proposed in the Northern and Eastern Colorado Desert Coordinated Management Plan, habitat disturbing activities would be considered subject to the 1 percent limit on new surface disturbance in the DWMA. · Under the Statewide Tortoise Policy (Guideline 20), "Surface disturbing activities in Category I habitats will be restricted to those which cannot be relocated elsewhere." · Under the Statewide Tortoise Policy (Guideline 21), "Surface disturbance to soil and vegetation will be minimized through mitigation measures in Category I and II habitats." · Under the Statewide Tortoise Policy (Guideline 24), "Facilities and activities that concentrate visitors will be discouraged in and adjacent to Category I and II habitats." · BLM policy prohibits landfills on public lands.	NO
Acres of grazing allotments (sheep and cattle) closed or bought out for conservation	· There are no grazing allotments in the proposed Chuckwalla DWMA ACEC. · Within the Eastern Colorado Recovery Unit and in tortoise habitat, there are two sheep grazing allotments. Both have historically been grazed only lightly at 4-5 year intervals. The Northern and Eastern Colorado Desert Coordinated Management Plan proposes to delete the Ford Dry Lake Sheep Allotment (49,700 ac.) and reduce the Rice Valley Sheep Allotment (from 85,600 ac. To 76,300 ac.). Both actions are due to proximity to bighorn sheep range.	NO

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Chuckwalla	
Agency	California BLM	DTPC
Recovery Action		
Number of wild horses and burros removed	<ul style="list-style-type: none"> Under the Northern and Eastern Colorado Desert Coordinated Management Plan, there will be no wild horse or burro herd management areas overlapping the proposed Chuckwalla DWMA ACEC; all burros are to be removed from the DWMA ACEC. Between 1981-2002, 437 burros were removed from the Picacho Herd Area. The target population of 190 burros has been achieved; the current population estimate is 120 burros. This Herd Area is adjacent to the proposed Chuckwalla DWMA ACEC, and burros sometimes enter the proposed DWMA ACEC. 	NO
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit	<ul style="list-style-type: none"> Under the CDCA Plan, harvesting of vegetation and biological specimens is allowed only by permit. 	NO
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	<ul style="list-style-type: none"> There are no illegal dumps in the Chuckwalla DWMA ACEC. In the mid-1990's, illegal dumps were cleaned up at Berdoo Canyon (Riverside County) and Titsworth Road (Imperial County) within the Eastern Colorado Recovery Unit. 	NO
Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects	<ul style="list-style-type: none"> Under the Statewide Tortoise Policy (Guideline 31), "All tortoise relocations will be conducted under experimental controls until adequate information is available to ensure that tortoises can be effectively and humanely relocated. Only wild tortoises will be considered for relocation." [Local relocations to move tortoises out of harm's way from a project is not considered a relocation for these purposes.] 	NO
Prohibit uncontrolled dogs out of vehicles	<ul style="list-style-type: none"> No restrictions are in place. 	NO

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Chuckwalla	
Agency	California BLM	DTPC
Recovery Action		
Restrict establishment of new roads in desert wildlife management areas	· There are no specific restrictions on new roads. However, a new road would be subject to the 1 percent limit on new surface disturbance in the DWMA.	NO
Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)	· None.	NO
Number of acres or list of re-vegetation projects	· None, except for route rehab projects noted above.	NO
Sign and fence desert wildlife management areas as needed	· None.	NO
Establish environmental education programs and facilities.	· The Statewide tortoise Policy (1992) includes a detailed Public Education Program. It includes strategies with a total of 25 actions. Most of these have been implemented and many are on-going. The Pubic Education Program is reiterated in the proposed Northern and Eastern Colorado Desert Coordinated Management Plan. · The Santa Rosa Mountains Visitors Center was constructed in the nearby Coachella Valley in the mid-1990's. Information on tortoises conservation is provided at the Center.	NO

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Chuckwalla	
Agency	California BLM	DTPC
Recovery Action		
Monitor desert tortoise populations within recovery units	<ul style="list-style-type: none"> · The Chuckwalla Bench Permanent Study Plot is in the proposed Chuckwalla DWMA ACEC. The plot was surveyed in 1979, 1982, 1988, 1990, 1992, and 1997. · The Chuckwalla Valley II Permanent Study Plots is also in the proposed Chuckwalla DWMA ACEC. The plot was surveyed in 1980, 1987, and 1991. * In the 1970's the BLM conducted surveys on 47 study plots. Fifteen were selected as permanent study plots, each to be surveyed every four years. In 1995, responsibility for these surveys was transferred to the NBS and subsequently USGS. 	NO
Initiate research necessary to monitor and guide recovery efforts	<ul style="list-style-type: none"> · In 1990, three new research (new total of four) positions were added to address tortoise conservation and management issues in the California Desert. In 1994 all four positions and funding support were transferred to NBS/USGS. · Research in the proposed Chuckwalla DWMA ACEC has centered on demographics (permanent study plot data) and disease, especially shell diseases. Major researchers have included Berry. 	NO
Activities associated with predator control	<ul style="list-style-type: none"> · No predator control activities have occurred in the Chuckwalla DWMA ACEC. 	NO
Limit firearm use to hunting of big game or upland game birds from September through February		NO

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit	<p>The park consists of 794,000 acres (1240 sq. miles); of this approximately 592,690 acres is Congressionally designated wilderness (926 sq. miles). The recovery plan designates Joshua Tree National Park as a desert wildlife management area (DWMA).</p> <p>It is estimated that more than 50% of the park is desert tortoise habitat.</p> <p>Lands just outside the boundary of Joshua Tree National Park are known to contain desert tortoise populations as well and these have been and are currently being used for density estimates by Kiva Biological.</p>
Secure habitat within desert wildlife management areas	<p>In 1994, the park was enlarged by 234,000 acres. Since 1998, the park has bought or received through donation 18,850 acres of private land inside the park. 592,690 acres in Joshua Tree NP are Congressionally designated wilderness and are protected by the Wilderness Act 1964. The park's Backcountry and Wilderness Management Plan further designates a natural zone within the park's boundaries that is protected from disturbance.</p> <p>"When the FWS designated critical habitat for the desert tortoise Mojave population and published a notice in the Federal Register (59 FR 5820) and Code of Federal Regulations (50 CFR Part 17) in 1994, lands within the boundaries of Joshua Tree National Monument were considered already protected and were not classified as critical habitat. Lands to the south and north of the monument, however, did not have the same level of protection as offered by the NPS as were designated as the Chuckwalla Bench and Pinto Mountain critical habitats. With the passage of the California Desert Protection Act on October 31, 1994, the park acquired lands to the south, north, and east of the monument boundaries, some of which had been designated as critical habitat earlier in the year. The portions of the Chuckwalla Bench critical habitat that lie within the park are comprised of the rugged and steep Little San Bernardino and Cottonwood Mountains. The greatest concentrations of desert tortoise populations are located on lands within the park boundaries that did not receive the designation of critical habitat. Portions of critical habitat were added to park lands with the intention that with the completion of the management plans of the Mojave and Colorado deserts, the entire park would comprise one DWMA. The critical habitat for the Mojave Desert tortoise populations will conform to the DWMA boundaries determined through the recovery planning and implementation process. At this time, neither the West Mojave Desert Management Plan nor the Northern and Eastern Colorado Desert Management Plan is complete (?). Thus, the critical habitat designation remains in effect, and none of the Joshua Tree National Monument lands before the California Desert Protection Act are included in the designation. (50 CFR Part 17)." (Environmental Assessment for the Modification of VR-1257, February 2000).</p>

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Secure habitat within desert wildlife management areas	Joshua Tree has been part of a international biosphere reserve since 1984. Fulfillment of the biosphere reserve concept and long-term protection of ecological units that extend outside of the boundary are made more difficult by land use and development around the park.
Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists	The two recovery units in the Joshua Tree National Park DWMA are connected through functional habitat, being bisected only by a few roads that run through the park. Mitigation measures have been implemented on curbed roads through built-in “tortoise breaks” to allow passage of desert tortoises and other wildlife from one side of the road to another. These tortoise breaks have also been implemented in parking lots to prevent tortoises from being trapped in these lots.
Number (or miles) of roads closed or rehabilitated	<p>There are over 400 miles of old roads within the park consisting of jeep trails, historic roads, and recent roads created on former BLM lands; these roads are all closed and, as of 2002, are all staked as closed. The majority of these roads cut through wilderness.</p> <p>Several long roads including the following have been closed in the park: Thermal, Rockhouse, Fargo, Coxcombs Adit, Cadiz SW, Coxcomb Guzzler, Elsa Ann Mine, Old Powerline Rd. (East and West); several smaller ones have been closed as well</p> <p>Several portions of old roads were rehabilitated and re-vegetated after Federal Highways Project 173 (Quail Springs to Cap Rock) in our park.</p> <p>Approximately 30 roads have been re-vegetated at the junction of an open road (the road “head” ; between 100’ – 300’). One of these goals of these closures is to allow for recovery of roads, and to provide contiguous, protected, undisturbed habitat for the tortoise.</p>
All competitive and organized events on designated roads	We occasionally have organized events and receive requests for permits for various activities, such as bicycle tours/races, film crews, etc. Special events must be approved by the ID team through the NEPA process. Once events are approved through the NEPA process, special use permits must be issued by our Special Use Permits Coordinator. Events are generally restricted in group size and kept as close to roads and disturbed areas as possible. Events occurring around or near known tortoise locations are monitored closely by a law enforcement ranger or a biological monitor; these areas are surveyed and cleared for tortoises before they are permitted to occur.

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Prohibit habitat destructive military maneuvers	On February 2000 an Environmental Assessment was made for the modification of a Navy Overflight exercise route that passed through portions of Joshua Tree NP. The overflight route was thought to potentially harass or affect the natural behavior of the desert tortoise and other sensitive species within the park. Flight route VR-1257 was rerouted over a portion of Joshua Tree NP which contained lower densities of desert tortoises, bighorn sheep, and visitor campgrounds. Military exercises in the park are mostly limited to repelling off rock structures near moderately visited or disturbed areas.
Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation	Developments and other land uses adjacent to the boundary threaten the integrity of the park's resources and wilderness values. Surrounding land use has changed significantly since the 1936 proclamation of the monument. Town and cities, interstate and state highways, subdivision, utility corridors, mining, military facilities, and agricultural interests are now on or near the park boundary. The park does not permit any new developments or surface disturbance to occur within tortoise habitat without prior approval and consultation from USFWS. The Eagle Mountain landfill has been proposed near the southeast boundary and is the subject of great controversy. Joshua Tree NP is still trying to prevent the proposed landfill from being placed near one of the largest desert tortoise densities in the park (Pinto Basin).
Acres of grazing allotments (sheep and cattle) closed or bought out for conservation	Stock use would be limited to horses and mules and restricted to designated equestrian trails and corridors.
Number of wild horses and burros removed	Stats currently unavailable.
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit	In accordance with the NPS Research Permit system and the Special Use Guidelines, all permittees are extremely regulated in the collection of biological specimens. Each request is scrutinized and permits are only given to those who can adequately justify the need for collection. In general, "harvest" is kept to a minimum. The is/has been poaching in the park, certainly n the past, but mostly focused on cacti and not vegetation that would be preferred food sources of the tortoise.

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	23 sites for a total of 547,704 lbs. On Earth Day volunteers and Park employees take part in cleaning up various areas of the park
Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects	Tortoises that are removed from the park are no longer relocated within the park boundaries. These animals are given to the tortoise rescue center or tortoise adoption agency where they receive a physical inspection and appropriate USFWS permit tags. Tortoises thought to show symptoms of URTD are reported to Kristen Berry for a health inspection. Interpretation does routine public service messages for commercial radio about what to do when you encounter a tortoise; approximately 2 tortoise spots per year with listeners numbering in the hundreds of thousands of regional residents Interpretation staffs a booth each year during Joshua Tree's Tortoise days celebration; Other local fairs and festivals that we attend include tortoise information. Yearly attendance at these fairs range from 10,000 to 30,000. Interpretation spoke on TV news at 29 Palms Jr. High to the entire school about tortoises in response to one student removing hatchling from the desert and giving them away to people who wanted them; reached 609 people. We talk about Eagle Mt. Landfill in Finding a Solution and Desert Connections. The secondary curriculum activity guide helps students learn about issues faced by desert parks. Several of the programs we do, touch on tortoises as to being threatened, do not touch, what do if you see them, etc. These programs are: Habitats (grades 1-2), Who Lives in a National Park (Pre-K to Kinder), Whos Who and Whats What (3rd grade), Living in Harmony (4th grade), Desert Adaptations (3rd-6th grade), Finding a Solution (8th-12th grade), Desert Connections (9th-12th grade).
Prohibit uncontrolled dogs out of vehicles	Posted signs indicate that dogs should be held on leash at all times Regulations in the park allow fines to be imposed upon those do not keep their dogs on leashes Feral dogs may be trapped or controlled through direct reduction removal
Restrict establishment of new roads in desert wildlife management areas	Meeting the needs of a growing public visitation rate equates partially with maintaining the roads to provide safe access to campgrounds and educational facilities. Joshua Tree NP General Management Plan outlines several road rehabilitation projects and the construction of new parking lots to meet visitor needs. Before such projects are undertaken, they are carefully reviewed for impacts to the desert tortoise and formal consultation with USFWS is conducted to obtain their biological opinion and FONSI.

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)	Temporary Desert tortoise fencing has been installed at construction staging areas for Project 173 and will be incorporated in future road rehabilitation projects. Areas with high tortoise densities are fenced off and monitored by park biologists on-site during construction. Project 173 incorporated approximately xxxx miles of tortoise breaks Project 291 will incorporate approximately xxxx miles of tortoise breaks
Number of acres or list of re-vegetation projects	Federal Highway Projects: approximately 45 acres of disturbance associated with construction has been rehabilitated; approximately 18.5 acres of disturbance may occur in phase 2 of the highway project and this will be revegetated within one year.
Sign and fence desert wildlife management areas as needed	Fencing and Foam Plugging of open Mine Shafts to prevent a hazard to tortoises which may fall inside; the total number of closures can be submitted at a later time. Park boundaries are signed and maintained by law enforcement rangers.
Establish environmental education programs and facilities.	From 1995-97 we worked on the development of desert tortoise traveling trunks. These were produced with NPS and Southern California Edison funds. JOTR has four of these kits. Others exist at DEVA, MOJA, and LAME. BLM received two kits produced under this project. Once the Sonoran Desert parks saw what we were doing they obtained funds and developed tortoise traveling trunks of their own. These kits are loaned to teachers for use in classrooms and come with specimens, books, videos, and a curriculum unit. They have been seen and used by several thousand students since they were put into service. The park education program developed a special curriculum unit on tortoises called Tortoise, Tortoise! Targeted at junior high school students; This program deals mainly with transects, not with radio telemetry. We have replica tortoises (adult, subadult, juveniles) along with GPS and other equipment. 14 programs with 521 students. see the website for further details http://www.nps.gov/jotr/educate/standards/tortoise.html The new education van will include equipment, exhibits, and other information associated with the tortoise monitoring and recovery efforts. New museum exhibits at the Oasis VC, Cottonwood, and at Black Rock discuss the desert tortoise and its plight. The Cottonwood tortoise exhibit was developed by the Desert Tortoise Preserve Council and is on loan to Joshua Tree. These museum exhibits have collectively been viewed by approx. 500,000 people over the last 2+ years.

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Establish environmental education programs and facilities.	<p>Orientation exhibits produced in 1998 for park entrances and visitor centers</p> <p>The new wayside exhibit plan has one entire wayside dedicated to the desert tortoise.</p> <p>Periodic articles have appeared in the park newspaper about the desert tortoise and what to do when encountering them.</p> <p>Our park website has a feature article on the desert tortoise; http://www.nps.gov/jotr/resources/animals/reptiles/tortoise/tortoise.html</p> <p>At the park's urging, Huell Howser did about 20 minutes on desert tortoise monitoring and conservation efforts in the park during an episode of his California Gold program in 1998. It featured park ecologist Gillian Bowser and the Earthwatch tortoise volunteers. We continue to sell the video that was produced from this show.</p> <p>The Joshua Tree National Park Association sells books, t-shirts, post cards, refrigerator magnets, and stuffed animals on the desert tortoise. The Association's Desert Institute offers college-level courses on park reptiles and amphibians. Tortoise issues are a part of every course. The reptile classes are the most popular courses the Institute offers.</p> <p>Park biological technicians often present at conferences or environmental organizations the park's interests and endeavors in preserving the desert tortoise. Biotechs also train volunteers, construction workers, and park staff from other branches (maintenance, fire, etc.) from time to time to make them aware of the desert tortoise and what to do when one is encountered; leave no trace and minimum impact suppression tactics also incorporate training for desert tortoise awareness.</p> <p>We distribute BLM tortoise brochures to students after conducting talks about tortoises. These are usually in the form of brief, patio talks with high school or scout groups, or may be given out after campfire programs.</p>
Monitor desert tortoise populations within recovery units	<p>The park's population is estimated at approximately 12,700 animals (Karl 1988).</p> <p>Prior to the listing of the tortoise in 1990, two surveys were completed to determine tortoise locations and densities throughout the park. Recent surveys by park staff have found that the tortoise is more widespread and densities in some areas are higher than previously thought</p> <p>In 1991 the staff established four permanent trend plots, each one kilometer square. A fifth was established in 1994. Each site is visited at least 10 times per season (one day per week). More than 400 tortoises have been marked and their age, sex, weight, and location have been recorded (1994)</p> <p>In 1992 a desert tortoise survey along the road corridor from the Quail Springs intersection to the Geology Tour Road intersection was completed. This study entailed tortoise populations that might be affected by road reconstruction and other projects. Results indicated that few tortoises live in the surveyed area. Of the 80 transect lines walked, 62 had no tortoise sign. Very little sign was found in the remaining 18 transects, indicating low densities.</p>

Recovery Action Summary – Eastern Colorado Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Monitor desert tortoise populations within recovery units	<p>Tortoise densities range from zero in rugged mountain areas to 240 per square mile in the Pinto Basin. Most areas in the park do contain tortoises. (1994)</p> <p>Desert Tortoise populations occurring with construction footprints and their zones of influence (per USFWS survey protocols) are surveyed, monitored, and documented.</p> <p>Desert Tortoise sightings reported by park staff and visitors are collected through wildlife observation cards; this information is analyzed, recorded in an Excel database, and later incorporated into a GIS (ArcView shapefile) database.</p> <p>Desert Tortoises are monitored during rain events to prevent mortalities on park roads.</p>
Initiate research necessary to monitor and guide recovery efforts	<p>Dr. Jeffrey E. Lovich, Dr. Kristin Berry, Dr. Alice Karl, Dr. Jerry Freilich, Dr. Gillian Bowser have all initiated research to monitor and guide recovery efforts at Joshua Tree NP</p> <p>Dr. Bill Boarman examined Raven populations in the park and developed a recommended Raven Management Plan.</p> <p>Dr. Phil Medica is guiding LDS in concert with Dr. Peter Woodman of Kiva Biological</p> <p>Several populations of desert tortoises in the park have been examined for home range studies (Masters theses)</p> <p>Dr. Kristin Berry has examined several tortoises for the presence of URTD</p> <p>Many Student Conservation Association (SCA) interns have assisted in obtaining LDS and radiotracking data (Gsub zero) before 2001</p> <p>Pending funding and staffing, a Raven monitoring program at moderate to high tortoise density areas will be considered.</p> <p>Sampling of tortoise densities in areas not currently examined in LDS transects</p> <p>Tortoise populations are monitored in areas affected by fire (e.g. Juniper Fire Complex, 1999)</p> <p>Joshua Tree NP's Inventory and Monitoring program includes obtaining data on threatened and sensitive species—including the desert tortoise</p> <p>Park research on Desert Tortoises exists before the late 80's—i.e. Barrows's studies in Pinto Basin.</p>
Activities associated with predator control	<p>Coyotes that have developed a trend towards agonistic behavior in campgrounds will be monitored closely and controlled.</p> <p>Ravens are monitored at Maintenance facilities; their nests are removed in areas where they have been seen predating on tortoises. Preventing Eagle Mountain Landfill will be an indirect means of predator control.</p>
Limit firearm use to hunting of big game or upland game birds from September through February	

APPENDICES

APPENDIX A

Contact Information

Contact Information

NOMO

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APPENDIX B

Glossary

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Common Abbreviations

ACEC	Area of Critical Environmental Concern
APHIS	Animal and Plant Health Inspection Service
BLM	Bureau of Land Management
CALTRANS	California Department of Transportation
CDCA	California Desert Conservation Area
CFR	Code of Federal Regulations
DEVA	Death Valley National Park
DFG	Department of Fish and Game
DTNA	Desert Tortoise Natural Area
DTPC	Desert Tortoise Preserve Committee
DWMA	Desert Wildlife Management Area
Edwards AFB	Edwards Air Force Base
EIS	Environmental Impact Statement
ELISA	Enzyme-Linked Immunosorbent Assay
FONSI	Finding Of No Significant Impact
GFD	Game and Fish Department
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
INRMP	Integrated Natural Resource Management Plan
JOTR	Joshua Tree National Park
LAME	Lake Mead National Recreation Area
LDS	Line Distance Sampling
LVFO	Las Vegas Field Office
NA	Not Applicable
NBS	National Biological Survey
NECO	Northern and Eastern Colorado Desert Planning Unit
NEPA	National Environmental Protection Agency
NTC Ft Irwin	National Training Center Fort Irwin
NPS	National Park Service
MCAGCC	Marine Corps Air Ground Combat Center
MCLB	Marine Corps Logistics Base
MOJA	Mojave National Preserve
MSHCP	Multi-species Habitat Conservation Plan
UDWR	Utah Department of Wildlife Resources
UNLV	University of Nevada Las Vegas
URTD	Upper Respiratory Tract Disease
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMC	U.S. Marine Corps

OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
RMP	Resource Management Plan
SCA	Student Conservation Association